

Date: Friday, 17/08/2007 11:19:12 AM
User: Linda Lacelle

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: 02.500 SUPPORT
Job Number	: 34063		
Estimate Number	: 11058		
P.O. Number	: <i>N/A</i>	Part Number	: D28921
This Issue	: 17/08/2007 S.O. No. : <i>N/A</i>	Drawing Number	: D2892 REV A
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: <i>N/A</i> Type : MACHINED PARTS	Drawing Revision	: A
Previous Run	: 32374	Material	: <i>N/A</i>
Written By	: <i>[Signature]</i>	Due Date	: 22/09/2007
Checked & Approved By	: <i>[Signature]</i>	Qty:	16 Um: Each
Comment	: Est. C 02.11.26 Added P/O KJ		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	PG	PURCHASING
Comment: PURCHASING Issue P/O: <i>4392</i> <i>C207108117</i> Description: D6104-003 Material: 17-4 PH SS (AMS 5643 OR AISI 630) as per Dwg D6104 Material release note required. Blank size makes (2) D2891-1		
2.0	D6104003	17-4 SS Roundbar 3.25"OD
Comment: Qty.: 1.0000 Each(s)/Unit Total : 16.0000 Each(s) Support		
3.0	PACKAGING 1	PACKAGING RESOURCE #1
Comment: PACKAGING RESOURCE #1 Recieve & Inspect for Transit Damage Ensure Material Release Note is attached		
4.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
Comment: MORI SEIKI LATHE Turn blank for Haas as per Folio FA082		
5.0	QC1	INSPECT ALL DIM TO DIM SHEET
Comment: INSPECT ALL DIM TO DIM SHEET		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: D Date: 8/11/19
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 17/08/2007 11:19:12 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 02.500 SUPPORT

Job Number: 34063

Part Number: D28921

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

HAAS1

HAAS CNC VERTICAL MACHINING #1



Comment: HAAS

Machine as per Folio FA082

Tumble & Deburr

5.1

7.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

5.2

8.0

QC8

SECOND CHECK



Comment: SECOND CHECK

07.11.15 (16) (32)

9.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.2) as per QSI 005 4.3

M105914

07/11/19

(32X)

10.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

07-11-19

11.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:

matthew

07/11/20 (32)

12.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

07/11/20 (32)

Job Completion



07/11/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

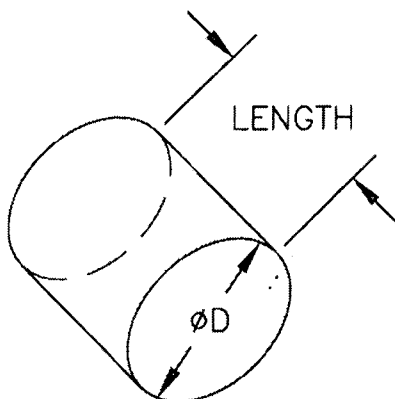


DESIGN 74	DRAWN BY 	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED 	APPROVED 	DRAWING NO. D6104	Rev. B SHEET 1 OF 1
DATE 02.11.25		TITLE ROUND BILLET, 17-4	SCALE NTS
A	01.04.10	NEW ISSUE	
B	02.11.25	CLARIFY ALLOY SPEC ADDED D6104-009/-011 REDUCE LENGTH OF BILLETS	

RELEASED

02.11.29

SPECIFICATION CONTROL DRAWING



MATERIAL: 17-4 PH SS (AMS 5643 OR AISI 630) MIN UTS = 170 KSI (38 HRc)

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, DIAMETER x LENGTH (+0.030/-0.000) AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES

Part No.	Alloy	D (Diameter)	Length
D6104-001	17-4 PH STAINLESS STEEL	Ø3.00	3.80
D6104-003	17-4 PH STAINLESS STEEL	Ø3.25	3.80
D6104-005	17-4 PH STAINLESS STEEL	Ø4.00	5.10
D6104-007	17-4 PH STAINLESS STEEL	Ø4.50	5.10
D6104-009	17-4 PH STAINLESS STEEL	Ø5.25	4.10
D6104-011	17-4 PH STAINLESS STEEL	Ø6.50	4.10

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7-25-'07 07:24 FROM-

P.O. BOX 977
SYRACUSE
NEW YORK 13201

CERTIFICATE OF

ORDER NO.

330-7-

A H CASTLE, INC.

3400 N. CLEF RD
FRANKLIN PARK, IL 60131

SHIP
A H CASTLE, INC.
26800 MILES RD
BELFORD HEIGHTS OH 44146

DATE

8/07

CUSTOMER ORDER # & DATE
10-31165

CUSTOMER REQ. #

DISTRICT

B FARSONS

SHIPPED FROM

SYRACUSE

DESCRIPTION OF MATERIAL

SIZE

3.250 RD

CRU 17-1PH RT A IAC 42470
AMC-317-10 REV 7 ASME-SA564-04ED T630 ASTM-A564-04 T630
AMS-56450 AISI 630 UNS-S17400

CHEMICAL ANALYSIS

HEAT NO.

HEAT NO.	C	MN	P	S	Si	NI	CR	MO	CO
A18939	.037	.42	.027	.022	.6	4.09	15.28	.11	3.2

CASTLE MATERIAL

DATE RCVD

IAC 42470

APPROVED BY

MECHANICAL PROPERTIES

QUANTITY

HEAT NO.

1814 # A18939

TENSILE PSI YLD 2X PSI

WELDED

RED/

CAPABILITY PHYSICALS AFTER 200 DEG. F. - 1 HR. AIRCOOL:
203,000 124,000 12.3 51.1

MAKING TEST OK
FERRITE 5%
MAGNETIC F/S 0/0

REDUCTION RATIO: 27.5:1
MATERIAL SOLUTION TREATED AT 1900 DEG. F. HELD 45 MINUTES
AIRCOOLED.

CRUCIBLE MATERIALS CORP. VENDOR #15400.
MATERIAL INGEST CAST.
NPTA - YES

MATERIAL FREE FROM MERCURY CONTAMINATION AT TIME OF SHIPMENT
NO WELD REPAIR PERFORMED
MATERIAL MELTED IN U.S.A.

THANK YOU FOR SELECTING
MANUFACTURED BY THE EMPLOYEES OF CRUCIBLE SPEC

THE ABOVE MATERIAL WAS MANUFACTURED
WITH ABOVE SPECIFICATIONS AND
SPECIFICATION REQUIREMENTS.
CRUCIBLE MATERIALS CORP.
ACTING BY AND THROUGH

SWORN TO AND SUBSCRIBED BEFORE ME THIS

DAY OF . 20

NOTARY PUBLIC

CERTIFIED BY:

QUALITY ASSURANCE

PRODUCT

TESTED IN ACCORDANCE WITH

FOR TAP

YTTVA NO

DART AEROSPACE LTD		Work Order: 34063
Description: Ø2.500 Support		Part Number: D2892-1
Inspection Dwg: D2892 Rev. A		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2892 Rev. A/DSK077 Rev. A and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
Lathe Section									
A	2.524	2.529		2.527	2.527	2.525	2.525		
B	3.702	3.722		3.714	3.714	3.714	3.714		
C	2.814	2.834		2.826	2.826	2.826	2.828		
D	0.718	0.738		0.728	0.728	0.727	0.728		
E	0.090	0.110		0.102	0.101	0.100	0.101		
F	2.714	2.734		2.724	2.724	2.724	2.730		
G	2.029	2.049		2.036	2.037	2.035	2.036		
H	3.214	3.234		3.224	3.224	3.224	3.224		
I	0.913	0.933		0.925	0.926	0.924	0.926		
J	0.022	0.042		0.032	0.032	0.032	0.032		
K	0.090	0.110		0.099	0.099	0.098	0.101		
L									
HAAS Section									
AA	0.115	0.135		.133	.133	.133	.133		
AB	0.290	0.310		.300	.300	.300	.300		
AC	0.040	0.060		.052	.053	.051	.051		
AD	0.115	0.135		.127	.125	.125	.126		
AE	0.240	0.260		.251	.253	.250	.249		
AF	0.188	0.193		.189	.189	.189	.189		
AG	0.240	0.260		.250	.250	.250	.250		
AH	1.126	1.146		1.140	1.140	1.146	1.140		
AI	0.454	0.474		.464	.465	.466	.465		
AJ	0.240	0.260		.250	.250	.250	.250		
AK	0.053	0.073		.063	.063	.063	.063		
AL	0.257	0.262		.258	.258	.258	.258		
AM	1.663	1.683		1.677	1.677	1.678	1.677		
AN	0.053	0.073		.063	.063	.063	.063		
AO	0.022	0.042		.032	.032	.032	.032		
AP	2.779	2.789		2.784	2.784	2.784	2.784		
AQ									
AR									
Accept/Reject									

Measured by: <i>cmh</i> / <i>3.1</i>
Date: 07/10/28 / 07/11/13

Audited by:
Date:

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	

DART AEROSPACE LTD	Work Order: 34063
Description: Ø2.500 Support	Part Number: D2892-1
Inspection Dwg: D2892 Rev. A	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2892 Rev. A/DSK077 Rev. A and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	15	16	17	18	By	Date
Lathe Section									
A	2.524	2.529		2.524	2.527	2.526	2.528		
B	3.702	3.722		3.715	3.714	3.714	3.714		
C	2.814	2.834		2.826	2.827	2.826	2.826		
D	0.718	0.738		0.727	0.727	0.728	0.728		
E	0.090	0.110		0.099	0.098	0.100	0.099		
F	2.714	2.734		2.725	2.725	2.725	2.725		
G	2.029	2.049		2.036	2.036	2.035	2.034		
H	3.214	3.234		3.224	3.224	3.223	3.224		
I	0.913	0.933		0.927	0.927	0.928	0.925		
J	0.022	0.042		0.032	0.032	0.032	0.032		
K	0.090	0.110		0.100	0.099	0.099	0.099		
L									
HAAS Section									
AA	0.115	0.135		.133	.133	.133	.133		
AB	0.290	0.310		.300	.300	.300	.300		
AC	0.040	0.060		.051	.051	.052	.053		
AD	0.115	0.135		.126	.126	.125	.126		
AE	0.240	0.260		.249	.249	.250	.252		
AF	0.188	0.193		.189	.189	.189	.189		
AG	0.240	0.260		.250	.250	.250	.250		
AH	1.126	1.146		1.138	1.137	1.140	1.139		
AI	0.454	0.474		.465	.464	.466	.466		
AJ	0.240	0.260		.250	.250	.250	.250		
AK	0.053	0.073		.063	.063	.063	.063		
AL	0.257	0.262		.258	.258	.258	.258		
AM	1.663	1.683		1.677	1.677	1.678	1.678		
AN	0.053	0.073		.063	.063	.063	.063		
AO	0.022	0.042		.032	.032	.032	.032		
AP	2.779	2.789		2.784	2.784	2.784	2.784		
AQ									
AR									
Accept/Reject									

Measured by: <i>pm</i>
Date: 07/10/28 / 07/11/13

Audited by:
Date:

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	

DART AEROSPACE LTD		Work Order: 34063
Description: Ø2.500 Support		Part Number: D2892-1
Inspection Dwg: D2892 Rev. A		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2892 Rev. A/DSK077 Rev. A and record below:

				Recorded Actual Dimensions				By	Date
Dim	Min	Max	Go/No Go Gauge	1 9	2 10	3 11	4 12		
Lathe Section									
A	2.524	2.529		2.526	2.527	2.528	2.527		
B	3.702	3.722		3.714	3.713	3.714	3.712		
C	2.814	2.834		2.829	2.826	2.826	2.827		
D	0.718	0.738		0.728	0.728	0.728	0.728		
E	0.090	0.110		0.100	0.101	0.099	0.100		
F	2.714	2.734		2.728	2.725	2.725	2.728		
G	2.029	2.049		2.035	2.035	2.035	2.035		
H	3.214	3.234		3.226	3.224	3.224	3.225		
I	0.913	0.933		0.926	0.926	0.925	0.925		
J	0.022	0.042		0.032	0.032	0.032	0.032		
K	0.090	0.110		0.100	0.106	0.099	0.106		
L									
HAAS Section									
AA	0.115	0.135		.133	.132	.133	.133		
AB	0.290	0.310		.300	.300	.300	.300		
AC	0.040	0.060		.052	.051	.052	.051		
AD	0.115	0.135		.126	.126	.126	.126		
AE	0.240	0.260		.248	.251	.249	.251		
AF	0.188	0.193		.189	.189	.189	.189		
AG	0.240	0.260		.250	.250	.250	.250		
AH	1.126	1.146		1.145	1.140	1.142	1.143		
AI	0.454	0.474		.465	.466	.464	.463		
AJ	0.240	0.260		.250	.250	.250	.250		
AK	0.053	0.073		.063	.063	.063	.063		
AL	0.257	0.262		.258	.258	.258	.258		
AM	1.663	1.683		1.678	1.677	1.678	1.677		
AN	0.053	0.073		.063	.063	.063	.063		
AO	0.022	0.042		.032	.032	.032	.032		
AP	2.779	2.789		2.784	2.784	2.784	2.784		
AQ									
AR									
Accept/Reject									

Measured by: <i>omf</i>
Date: 07/10/29 / 31 07/11/14

Audited by:
Date:

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	

DART AEROSPACE LTD		Work Order:	
Description: Ø2.500 Support		Part Number: D2892-1	
Inspection Dwg: D2892 Rev. A		Page 1 of 1	

Inspect dimensions highlighted on inspection sheet drawing D2892 Rev. A/DSK077 Rev. A and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	13	14	15	16	By	Date
Lathe Section									
A	2.524	2.529		2.528	2.525	2.525	2.526		
B	3.702	3.722		3.714	3.715	3.715	3.715		
C	2.814	2.834		2.827	2.826	2.825	2.826		
D	0.718	0.738		0.729	0.729	0.728	0.728		
E	0.090	0.110		0.098	0.099	0.100	0.100		
F	2.714	2.734		2.725	2.725	2.725	2.725		
G	2.029	2.049		2.033	2.037	2.037	2.037		
H	3.214	3.234		3.224	3.223	3.223	3.224		
I	0.913	0.933		0.924	0.922	0.925	0.926		
J	0.022	0.042		0.032	0.032	0.032	0.032		
K	0.090	0.110		0.099	0.100	0.099	0.099		
L									
HAAS Section									
AA	0.115	0.135		.133	.133	.133	.133		
AB	0.290	0.310		.300	.300	.300	.300		
AC	0.040	0.060		.053	.054	.053	.049		
AD	0.115	0.135		.126	.126	.125	.126		
AE	0.240	0.260		.246	.251	.248	.253		
AF	0.188	0.193		.189	.189	.189	.189		
AG	0.240	0.260		.250	.250	.250	.250		
AH	1.126	1.146		1.140	1.142	1.142	1.142		
AI	0.454	0.474		.464	.466	.466	.466		
AJ	0.240	0.260		.250	.250	.250	.250		
AK	0.053	0.073		.063	.063	.063	.063		
AL	0.257	0.262		.258	.258	.258	.258		
AM	1.663	1.683		1.678	1.678	1.678	1.678		
AN	0.053	0.073		.063	.063	.063	.063		
AO	0.022	0.042		.032	.032	.032	.032		
AP	2.779	2.789		2.784	2.784	2.784	2.784		
AQ									
AR									
Accept/Reject									

Measured by: <i>JRL</i>
Date: <i>07/10/29 / 07/11/14</i>

Audited by:
Date:

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	

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